

Towards High-Resolution X-Ray Spectroscopy of Muonic Lithium using Metallic Magnetic Microcalorimeters

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Precision measurements of nuclear charge radii provide important inputs for modern nuclear theory, helping to improve our understanding of nuclear forces. The spectroscopy of muonic atoms is known as a highly precise method for such measurements. However, in the case of low- to medium-Z nuclei, the covered energy range has so far been difficult to access using laser spectroscopy or conventional solid-state detectors. The new QUARTET collaboration addresses this gap for the first time using metallic magnetic microcalorimeters, combining high quantum efficiencies, broadband-spectra and record-resolving power. This contribution presents plans and status of a first experiment aiming at the spectroscopy of muonic Li-6 and Li-6 at the Paul Scherrer Institute.

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